

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings of claims in the application:

LISTING OF CLAIMS:

1-20 (canceled)

21.(new) A self energising friction clutch comprising;
a shaft which is rotatable about its axis,
a clutch disc which is concentrically fixed to the shaft,
engaging means for disengaging and engaging the disc from and
with structure adjacent the disc, including a wedging arrangement
which includes a wedge member having a wedge angle [], a first
face of which rests on a first face of the disc with the second
face of the wedge member, opposite its first face, tapering
towards the first face of the member in the direction of rotation
of the disc and from a first end of the wedge member towards the
smaller second end of the wedge member,
an actuator for moving the engaging means between its disengaged
and engaged positions of operation, including a pin which passes
through the structure in a direction normal to the disc face and
carries a head which has a formation which projects beyond the
side of the pin to bear on the first end of the wedge member, and
a ramp formation, which is fixed to the structure and on which
the second face of the wedge member is movable by the actuator in
the direction of rotation of the disc between its rest position
on the disc and a second position to which the disc is
progressively locked by wedging action to the structure with the
locking force applied by the wedge member to the disc, during
rotation of the disc, being substantially greater than the
actuator force required to move the wedge to its locked position
with the disc stationary relatively to the structure.

22.(new) A clutch as claimed in claim 21 wherein the wedging arrangement includes a reaction formation which is fixed to the structure and which, in the disengaged position of the wedge, rests on the second face of the disc opposite the wedge and, which together with the wedge, lockingly clamps the disc between them in the disc locking position of the wedge.

23.(new) A clutch as claimed in claim 22 wherein the coefficient of friction of the first face of the wedge member on the disc is greater than that of its second face on the ramp formation so that the lower frictional resistance to movement of the wedge member on the ramp will amplify the wedging effect of the wedge.

24.(new) A clutch as claimed in claim 23 for coupling a second rotatable shaft in axial register with and to the disc shaft wherein the structure is a housing wherein the disc is rotatable, the second shaft is fixed to and projects from the housing, and the actuator pin is movable in its axial direction through a wall of the housing in a direction normal to the disc face with the pin head projecting formation in the housing bearing on the first end of the wedge member and means for moving the pin to cause its head projecting formation to move the wedge member in the direction of rotation of the disc, in use.

25.(new) A clutch as claimed in claim 24 including at least two wedging arrangements and their actuator pins which are equally spaced from each other on a path on the disc which is coaxial with its axis of rotation.

26.(new) A clutch as claimed in claim 25 wherein the or each disc engaging means includes two wedge arrangements which are arranged in the housing in a back to back relationship with the wedging angles [] of the wedges facing in opposite directions on a

common path of rotation on the disc with the actuator pin head including two oppositely facing projecting formations which each bear on a first end surface of a wedge member of the pair of wedge members so that on activation of the pin by its moving means one of the wedge members of the or each pair of wedge members will be caused to lock the wedge member to the disc in a first direction of rotation and the other in the opposite direction of rotation.

27.(new) A clutch as claimed in claim 26 wherein the first end of the or each wedge is a flat surface which is inclined at an angel [] to a line normal to the first face of the disc and the or each pin head projecting formation is a flat surface which is engaged with and complementally angled to the flat end surface of the wedge on which it bears.

28.(new) A clutch as claimed in claim 21 including means for biasing the or each wedge member in a direction opposite the direction of rotation of the disc, in use.

29.(new) A clutch as claimed in claim 27 wherein one of the surfaces between the pin head formation and end surface of the wedge member on which it bears is faced with a material having a low coefficient of friction.

30.(new) A clutch as claimed in claim 29 wherein one of the interface surfaces between the or each wedge member and its ramp formation is faced with a material having a low coefficient of friction.

31.(new) A clutch as claimed in claim 29 wherein roller bearings are rotatably located between the interface surfaces between the or each wedge member and its ramp formation.

32.(new) A clutch as claimed in claim 27 wherein the friction interfaces of the clutch components in the housing operate in a traction fluid in the housing.

33.(new) A clutch as claimed in claim 24 wherein the actuator pin moving means is an electro magnet.

34.(new) A clutch as claimed in claim 24 wherein the actuator pin moving means is a hydraulic piston and cylinder arrangement.

35.(new) A clutch as claimed in claim 24 wherein the actuator pin moving means includes an activating ring which is centred on the clutch shaft axis with a first face of the ring bearing on the free end of the or each actuator pin on the outside of the clutch housing and which is slidably located and held against rotation in fixed structure adjacent the clutch housing with the pin moving means being adapted to move the ring towards and away from the clutch housing.

36.(new) A clutch as claimed in claim 35 wherein the or each actuating pin is spring biased onto the activating ring.

37.(new) A clutch as claimed in claim 36 which is used as an angular velocity extraction device in a constant velocity transmission machine with the second face of the activating ring including at least one outwardly projecting cam formation.

38.(new) A clutch as claimed in claim 37 including a driver unit which comprises a transmission wheel which is rotatable on the second shaft and at least one formation, which projects from the wheel in its axial direction, which bears against and is cam following on the second face of the activating ring.

39.(new) A clutch as claimed in claim 38 wherein the transmission wheel is a gear wheel which, in use, is gear driven.

40.(new) A clutch as claimed in claim 38 wherein the transmission wheel is a pulley which is adapted to be belt driven.